

Filed: November 14, 2000
Response to Office Action

layer is surrounded by layers of non-conductive fabric (see Fig. 9 and the description thereof at column 4, lines 51-65). The present invention, on the other hand, is comprised of a single fabric made from individual conductive fibers. The fabric of the present invention does not consist of placing a conductive layer between non-conductive layers. Further, the fibers in the fabric resulting from the present invention do not require coating with a metal in order to impart conductivity. In the present invention, the fabric, itself, is made up of *integrated individually conductive fibers*. In the present invention, the fabric is conductive at the individual fiber level, while in the Flick reference, the conductivity occurs at the fabric level only, and only after coating with a metallized material.

applicant
reads too
much into
this phrase

The claims of the present invention differ from the disclosure of Flick. Flick does not provide for *integrated individually conductive fibers*. As noted above, each fiber of the fabric of the present invention is conductive, while the fabric in the Flick reference requires that the non-conductive fibers be first formed into a fabric, followed by coating with a metal to form a conductive fabric. This feature not only fails to anticipate the claimed invention, it also fails to render the claims herein obvious. One of ordinary skill in the art would not be motivated to coat each fiber and then attempt to weave or knit the coated fibers into a fabric. Accordingly, Applicants respectfully request withdrawal of the rejection over Flick.

The Examiner urges that the differences cited above are not present in the pending claims. Applicants respectfully disagree. The phrase "integrated individually conductive fibers" requires that each such fiber be conductive and that the individually conductive fibers are integrated. This limitation is found nowhere in the Flick reference. Further, the limitation describes the structure of the fabric and is not a product-by-process limitation. Accordingly, Applicants respectfully request reconsideration of the claims in light of this distinction.

The Examiner rejected claims 2, 6, 8, 10, 12, 15, 17, 19, 21, 23, 25, 29, 31, and 32 under 35 USC 103(a) as being obvious in light of Flick. The Examiner asserts that the Flick reference discloses all that is claimed except the disclosure of using a conductive paste between the fiber and the data output lead. Further, the Examiner notes that the use of conductive paste is known to increase signal quality and conduction by reducing contact impedance between elements, thus making its use obvious from the teachings of Flick. Applicants respectfully traverse.

As noted above, the Flick reference discloses a fabric having a significant structural difference from the invention as claimed. While the present invention provides a single fabric

Filed: November 14, 2000
Response to Office Action

comprised of integrated individually electrically conductive fibers, the Flick reference provides for a fabric coated with conductive material. Because the fabrics differ, the additional use of conductive paste is not an obvious variant for use with the fabric of the claimed invention. Accordingly, Applicants respectfully request withdrawal of the rejection.

The Examiner rejected claims 1-33 as being clearly anticipated by Post, U. S. Patent No. 6,210,771. Applicants respectfully traverse this rejection.

Post neither anticipates nor renders obvious the claimed invention. Post provides a fabric made of individually conductive fibers in one direction woven with non-conductive fibers in the other direction. According to the disclosure of Post, the conductive fibers are separated by spacing within the weave itself, which allows each conductive fiber to remain separate from its adjacent conductive fibers, thus preventing shorting due to touching. See column 4, lines 19-22 and Fig. 1B. Claim 13 of Post is representative of this limitation: "...adjacent lanes being separated from each other by at least one non-conductive fiber." Thus, Post requires both conductive and non-conductive fibers *and* that the conductive fibers not touch. In contrast, in the fabric of the present invention, the conductive fibers are *not* prevented from touching each other. Claim 1 states it is "a fully-conductive fabric..." Thus, the present invention allows for contact between the conductive fibers. Accordingly, the fabric of the Post reference does not anticipate the claims of the present invention.

Further, the Post reference fails to suggest the claims of the present invention. Because of the requirement that the conductive fibers of Post be separated to prevent shorting, the Post reference specifically teaches away from the present claims that the conductive fibers touch, i.e., be integrated. One of ordinary skill in the art would not have been motivated to integrate the conductive fibers, as required by the present claims, because Post specifically teaches that any touching would cause shorting, rendering the Post invention useless.

Yet another significant difference between Post and the present invention lies in the fact that the conductivity is "unidirectional" in the Post invention (see column 2, lines 14-16, Fig. 1A). In the present invention, there is no such limitation in the direction of conductivity. Accordingly, Applicants respectfully request withdrawal of any rejections over the Post reference.

The Examiner indicated that the present application does not contain sufficient support under 35 USC 112 to obtain the benefit of the September 22, 1997 filing date of U.S. Patent No.

Filed: November 14, 2000
Response to Office Action

6,145,551. Applicants submit that the claims of the present application find support for the "wearable motherboard" and "information infrastructure" in the disclosure of the '551 patent. Applicants specifically note the following:

Term	Reference in '551 Patent	Discussion of Support
Sensate liner	column 6, lines 3 et seq.	"Sensate liner provides means for monitoring body physical signs ... as well as for monitoring liner penetration." Liner contains a "sensing" component.
Sensing component	Column 6, lines 58 et seq.	Includes materials for sensing penetration of the liner or one or more body physical signs, or both.
Electrical conducting material	Column 8, lines 7-16	The sensing component of the garment may include an electrical conducting component (ECC) which is used to monitor vital signs. The ECC links to a personal status monitor (PSM).
Metallic fibers	Column 8, lines 61-64	"Also, the installation and connection of metallic fibers to the PSM unit will be simple and there will be no need for special connectors, tools, compounds and procedures." The metallic fibers function as "leads."
Static dissipating component (SDC)	Column 9, lines 48-55	The SDC is described as a means for dissipating any "built-up static charge during the usage of the sensate liner." The static build-up may "damage the sensitive electronic components in the PSM unit."

Filed: November 14, 2000
Response to Office Action

Term	Reference in '551 Patent	Discussion of Support
Personal status monitor	Column 11, lines 24-38	"conductive electrical fibers spaced at regular intervals to act as an elastic <i>circuit board</i> . The circuit diagram of this board is illustrated in FIG 8. The figure shows interconnections between the power and ground wires for transferring data from the randomly positioned interconnection points for the sensors" to the PSM.
Power supply	Column 11, lines 39-43	Included are "modular arrangements and connections for providing power to the electrical conducting material component and for providing a light source for the penetration sensing material component."
Operation of the sensate liner	Column 11, lines 51-67 through column 12, line 18	The interaction of the several components of the liner is provided. The "pulses" are times and transmitted; the pulses are received and "acknowledged"; the elapsed time indicates the length of the signal; the signals are sent to the PSM through the ECC of the liner; the signals are recorded by the PSM; the PSM makes a determination of deviation "from the norm."

Applicants submit that the combination of components of the sensate liner function as a "wearable motherboard." The pulses ("impulses") are transmitted to a monitor ("data-output terminal") through metallic fibers ("information infrastructure"). While the words themselves are not specifically used, Applicants submit that the disclosure of the '551 patent describes and supports the invention of a wearable motherboard or information infrastructure as if those terms were set forth in the patent itself. Accordingly, Applicants request that the Examiner indicate priority of this aspect of the present invention to the effective filing date of the '551 patent, September 22, 1997.

Filed: November 14, 2000
Response to Office Action

In light of the remarks herein, Applicants respectfully request allowance of all pending claims.

Respectfully submitted,



Jacqueline Haley
Registration No. 41,457

TROUTMAN SANDERS LLP
Bank of America Plaza, Suite 5200
600 Peachtree Street
Atlanta, Georgia 30030
Tel: 404-885-3561
Fax: 404-962-6848